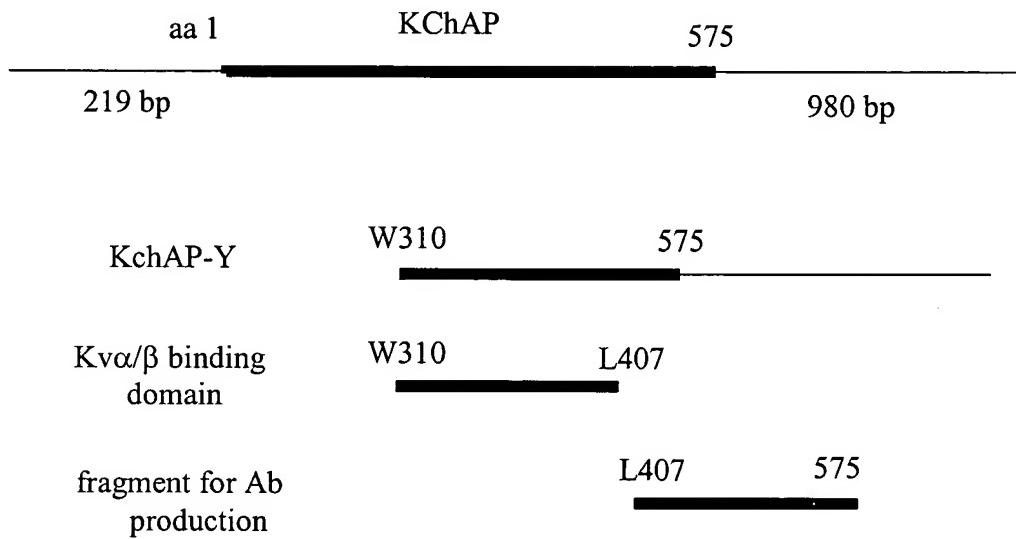


APPROVED	O.G.	FIG.	TIT.
BY	CLASS		SUBCLASS
DRAFTSMAN			

e: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

Inventors Name: Brown, et al.  
Attorney Docket Number: 222884/04066

Fig. 1



APPROVED	O. G. F.G.
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Fig. 2A

atgaagatcaaagaacttaccgcaggcgcttcccgaaagaccctggggcttccgat  
 1 -----+-----+-----+-----+-----+-----+-----+-----+ 60  
 M K I K E L Y R R R F P R K T L G R S D -  
  
 ctctttgctctttgcaccttcgttaggctccccagcccccttgct  
 61 -----+-----+-----+-----+-----+-----+-----+-----+ 120  
 L S L L S L P P G T S P V G S P S P L A -  
  
 A  
 p  
 a  
 I  
  
 tccattcctcccaccctcctgaccctggcaccttgctggccctaagcgtgaggtggac  
 121 -----+-----+-----+-----+-----+-----+-----+-----+ 180  
 S I P P T L L T P G T L L G P K R E V D -  
  
 A  
 a  
 t  
 I  
 I  
  
 atgcaccctcctctgccccagcctgtgcaccctgacgtcaccatgaaaccactgccctc  
 181 -----+-----+-----+-----+-----+-----+-----+-----+ 240  
 M H P P L P Q P V H P D V T M K P L P F -  
  
 E  
 a  
 g  
 I  
  
 tacgaagtctacggagagctatccggccgaccacccttgcgtccacccatcagagg  
 241 -----+-----+-----+-----+-----+-----+-----+-----+ 300  
 Y E V Y G E L I R P T T L A S T S S Q R -  
  
 P  
 v p  
 u s  
 I t  
 I I  
  
 tttgaggaagccacttacctttgcactcaactcccgagcagctgcagcagattctcaca  
 301 -----+-----+-----+-----+-----+-----+-----+-----+ 360  
 F E E H H F T F A L T P Q Q L Q Q I L T -

APPROVED BY DRAFTSMAN	O.G. FIG.
	CLASS SUBCLASS

Title: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

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Fig. 2B

tccaggaggttctgccaggagccaagtgcgattataccatacaagtgcagtcaggttc  
 361 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 420  
 S R E V L P G A K C D Y T I Q V Q L R F -  
 P  
 v  
 u  
 I  
 I

tgtctctgtgagaccagctgccccaggaggactattccccctaacctcttgtaag  
 421 -----+-----+-----+-----+-----+-----+-----+-----+ 480  
 C L C E T S C P Q E D Y F P P N L F V K -  
 B  
 s  
 t  
 E  
 I  
 I

gttaatggaaactctgccccctgcccggttacctccctccaaaccaagaatggagctgag  
 481 -----+-----+-----+-----+-----+-----+-----+-----+ 540  
 V N G K L C P L P G Y L P P T K N G A E -  
 S  
 t  
 u  
 I

cccaagaggcctagtcgtccaatcaacatcacacccctggctcgctctcagccactgtt  
 541 -----+-----+-----+-----+-----+-----+-----+-----+ 600  
 P K R P S R P I N I T P L A R L S A T V -  
 H  
 p  
 a  
 I

cccaacaccatagtggtaactggcatctgagttggacggaattactccttgtctgtg  
 601 -----+-----+-----+-----+-----+-----+-----+-----+ 660  
 P N T I V V N W S S E F G R N Y S L S V -

APPRQVED	O.G. FIG.
BY	CLASS
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Fig. 2C

B  
s  
a  
W  
I

661 tacctggtgaggcagttgactgcaggaccctgctacaaaagctcagagccaagggtatc  
Y L V R Q L T A G T L L Q K L R A K G I - 720

A  
v  
a  
I

721 cggaatccagaccattccc gagcactgatcaaggagaattgactgctgacccgacagt  
R N P D H S R A L I K E K L T A D P D S - 780

781 gaagtggctactacaagtctccgggtgtcactcatgtgcccgtggaaagatgcgcctg  
E V A T T S L R V S L M C P L G K M R L - 840

P  
s  
t  
I

841 actgtcccatgcccgctctcacctgtgcccacctgcagagttcgatgctgcctttat  
T V P C R A L T C A H L Q S F D A A L Y - 900

901 ctacagatgaatgagaaaaagccaacatggacgtgccctgtgtgacaagaaggctcc  
L Q M N E K K P T W T C P V C D K K A P - 960

961 tatgagtcactgattattgatggttattcatggaaattcttaattcctgttcggattgt  
Y E S L I I D G L F M E I L N S C S D C - 1020

P B  
f a  
l m  
M H  
I I

1021 gatgagatccagttcatggaagatggatcctgggtgtccaatgaaacccaagaaggaggca  
D E I Q F M E D G S W C P M K P K K E A - 1080

PCT/US2007/027202

APPROVED BY,	O.G. FIG.
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Fig. 2D

P  
f  
l  
M  
I

tccgagggttgcacccaccaggatggctggatggctccagtatagcccagtcag  
1081-----+-----+-----+-----+-----+-----+-----+-----+ 1140  
S E V C P P G Y G L D G L Q Y S P V Q -

gaggaaatcagtcagagaataagaagagggtgaagtcattgacttgacaatcgaaagc  
1141-----+-----+-----+-----+-----+-----+-----+-----+ 1200  
E G N Q S E N K K R V E V I D L T I E S -

B  
g  
l  
I  
I

tcatcagatgaggaagatctgcacccaccagaagaagcactgccctgttacctcggtgcc  
1201-----+-----+-----+-----+-----+-----+-----+-----+ 1260  
S S D E E D L P P T K K H C P V T S A A -

B  
s  
t  
E  
I  
I

attccagcccttcctggaagcaaaggagccctgacctctggcaccagccgtttcggtg  
1261-----+-----+-----+-----+-----+-----+-----+-----+ 1320  
I P A L P G S K G A L T S G H Q P S S V -

ctgcggagccctgcaatgggtacactggcagtgattcctgtcttagtctcccactacat  
1321-----+-----+-----+-----+-----+-----+-----+-----+ 1380  
L R S P A M G T L G S D F L S S L P L H -

gagtacccacctgccttccgctggggctgacatccaaggtagtttagattatcttc  
1381-----+-----+-----+-----+-----+-----+-----+-----+ 1440  
E Y P P A F P L G A D I Q G L D L F S F -

cttcagactgagagtcaacactacagcccttcagttatcacttcactagatgaggac  
1441-----+-----+-----+-----+-----+-----+-----+-----+ 1500  
L Q T E S Q H Y S P S V I T S L D E Q D -

100073047-026202

APPROVED	O.C. F.G.
BY	CLASS: SUBCLASS:
DRAFTSMAN	

Title: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

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Attorney Docket Number: 222884/04066

Fig. 2E

P  
f A  
l p  
M a  
I I

acccttggccacttcttcaattccggggaaacctcccccacttcctgggccactggcc  
1501-----+-----+-----+-----+-----+-----+-----+-----+ 1560  
T L G H F F Q F R G T P P H F L G P L A -

ccccacattggggagctctcaccgcagcgccactccagcacccgctcctggccgtgtcagc  
1561-----+-----+-----+-----+-----+-----+-----+-----+ 1620  
P T L G S S J R S A T P A P A P G R V S -

B  
s  
a  
W  
I

agcattgtggctctggagttccttgagggaaaggcatggaggaccctgccttcgg  
1621-----+-----+-----+-----+-----+-----+-----+-----+ 1680  
S I V A P G S S L R E G H G G P L P S G -

A  
a  
t  
I  
I

ccctcttgactggctgtcggtcagacgtcatttccttggactga  
1681-----+-----+-----+-----+-----+-----+-----+-----+ 1725  
P S L T G C R S D V I S L D \* -

Enzymes that do cut:

AatII	ApaI	AvaI	BamHI	BglII	BsaWI	BstEII	EagI
HpaI	PflMI	PstI	PvuII	StuI			

Enzymes that do not cut:

AgeI	AseI	BbrPI	BfrI	BsaBI	BsmI	BssHII	BstbI
BstXI	ClaI	DraI	DraIII	EcoRI	HindIII	KpnI	MluI
NarI	NcoI	NdeI	NheI	NotI	NruI	NsiI	PmlI
PvuI	SacII	SalI	SauI	Scal	SfiI	SmaI	SnaBI
SpeI	SspI	XbaI	XhoI				

APPROVED	O.G. FIG.
BY	CLASS SUBCLASS
DRAFTSMAN	

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Attorney Docket Number: 222884/04066

Fig. 3A

A  
p  
a  
I

atgaagatcaaagagcttaccgacgacgcttccccgaaagaccctggggccctctgat 1 60  
M K I K E L Y R R R F P R K T L G P S D -

ctctcccttctctttgcacctgttaggctccctggcctcttagct 61 120  
L S L L S L P P G T S P V G S P G P L A -

A  
p  
a  
I

cccattccccaacgctgtggccctggcacccctgtggcccaaggcgtagggtggac 121 180  
P I P P T L L A P G T L L G P K R E V D -

atgcaccccccctgtgcaggcctgtgcaccctgtatgtcaccatgaaaccattgccctc 181 240  
M H P P L P Q P V H P D V T M K P L P F -

tatgaagtctatgggagctcatccggcccaccaccottgcatccactttagccagcg 241 300  
Y E V Y G E L I R P T T L A S T S S Q R -

tttgaggaagcgcactttaccttgcacctcacacccagcaagtgcagcattttaca 301 360  
F E E A H F T F A L T P Q Q V Q Q I L T -

tccagagaggttctgccaggagccaaatgtgattataccatacaggtgcagctaagg 361 420  
S R E V L P G A K C D Y T I Q V Q L R F -

P  
v  
u  
I  
I

tgtctctgtgagaccagctgccccaggaagattatttccccaacctttgtcaag 421 480  
C L C E T S C P Q E D Y F P P N L F V K -

APPROVED	O.G. FIG.
BY	CLASS SUBCLASS
DRAFTSMAN	Title:

PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

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Fig. 3B

	B s t E I I	
481	gttaatggaaactgtccccctgccgggtaccccaaccaagaatggggccag V N G K L C P L P G Y L P P T K N G A E	540
541	ccaaaggcccagccgcacatcaacatcacaccctggctcgactctcagccactgtt P K R P S R P I N I T P L A R L S A T V	600
601	ccaaacaccattgtggtcaattggtcatctgagttcgacggaattactccttgtctgt P N T I V V N W S S E F G R N Y S L S V	660
	P s t I	B s a W I
661	tacctggtagggcagttgactgcaggaacccttctacaaaaaactcagagcaaagggtatc Y L V R Q L T A G T L L Q K L R A K G I	720
721	cggAACCCAGACCCTCGCGGGCACTGATCAAGGAGAAATTGACTGCTGACCCCTGACAGT R N P D H S R A L I K E K L T A D P D S	780
781	gaggtggccactacaagtctccgggtgtcaactcatgtgcccgttaggaaagatgcgcctg E V A T T S L R V S L M C P L G K M R L	840
	P s t I	
841	actgtcccttgctgtgcacctcacctgtgccacactgcagagcttcgatgctgcccttat T V P C R A L T C A H L Q S F D A A L Y	900
901	ctacagatgaatgagaagaaggctacatggacatgtccctgtgtgtacaagaaggctcc L Q M N E K K P T W T C P V C D K K A P	960

APPROVED	O.G. FIG.
BY,	
DRAFTSMAN	

CLASS SUBCLASS title: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

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Fig. 3C

tatgaatctttatcattgatggtttatttatggagattcttagttccctgttcagattgt  
 961 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 1020  
 Y E S L I I D G L F M E I L S S C S D C -  
 P B  
 f a  
 l m  
 M H  
 I I

gatgagatccaattcatggaagatggatcctggatggccaaatgaaacccaagaaggaggca  
 1021-----+-----+-----+-----+-----+-----+-----+-----+-----+ 1080  
 D E I Q F M E D G S W C P M K P K K E A -  
 P  
 f  
 l  
 M  
 I

tctgagggttgccccccgcagggtatggctggatggcctccagttacagcccagttccag  
 1081-----+-----+-----+-----+-----+-----+-----+-----+-----+ 1140  
 S E V C P P G Y G L D G L Q Y S P V Q -  
 gggggagatccatcagagaataagaagaaggctgaagttattgacttgacaatagaaagc  
 1141-----+-----+-----+-----+-----+-----+-----+-----+-----+ 1200  
 G G D P S E N K K K V E V I D L T I E S -  
 P  
 v  
 u  
 I  
 I

tcatcagatgaggaggatctgccccctaccaagaaggactgttctgtcacctcagctgcc  
 1201-----+-----+-----+-----+-----+-----+-----+-----+-----+ 1260  
 S S D E E D L P P T K K H C S V T S A A -  
 atcccgccctacctggaagcaaaggagtctgacatctggccaccagccatcctcggtg  
 1261-----+-----+-----+-----+-----+-----+-----+-----+-----+ 1320  
 I P A L P G S K G V L T S G H Q P S S V -  
 ctaaggagccctgctatggcacgttgggtgggatttcctgtccagtctcccactacat  
 1321-----+-----+-----+-----+-----+-----+-----+-----+-----+ 1380  
 L R S P A M G T L G G D F L S S L P L H -  
 gagtacccacctgccttcccactggagccgacatccaaggtagtttagattttcattt  
 1381-----+-----+-----+-----+-----+-----+-----+-----+-----+ 1400  
 E Y P P A F P L G A D I Q G L D L F S F -

APPROVED	O.G. FIG.
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Fig. 3D

cttcagacagagactcggactatggccctctgtcatcacctcaacttagatgaacaggat  
1441-----+-----+-----+-----+-----+-----+-----+-----+ 1500  
L Q T E S Q H Y G P S V I T S L D E Q D -  
  
A  
p  
a  
I  
  
gcccttggccacttccatcgaccgaggacccttctcaacttctggccactggcc  
1501-----+-----+-----+-----+-----+-----+-----+-----+ 1560  
A L G H F F Q Y R G T P S H F L G P L A -  
  
P N  
s a  
t r  
I I  
  
cccacgctggggagctcccactgcagcgccactccggcgccccctctggccgtgtcagc  
1561-----+-----+-----+-----+-----+-----+-----+-----+ 1620  
P T L G S S H C S A T P A P P G R V S -  
  
S  
a  
u  
I  
  
agcattgtggccctggggggccttgaggagggcatggaggaccctgcctcagg  
1621-----+-----+-----+-----+-----+-----+-----+-----+ 1680  
S I V A P G G A L R E G H G G P L P S G -  
  
ccctcttgactggctgtcggtcagacatcattccctggactga  
1681-----+-----+-----+-----+-----+-----+-----+-----+ 1725  
P S L T G C R S D I I S L D \* -

Enzymes that do cut:

ApaI	BamHI	BsaWI	BstEII	NarI	PflMI	PstI	PvuII
SauI							

Enzymes that do not cut:

AatII	AgeI	AseI	AvaI	BbrPI	BfrI	BglII	BsaBI
BsmI	BssHII	BstBI	BstXI	Clal	DraI	DraIII	EagI
EcoRI	HindIII	HpaI	KpnI	MluI	NcoI	NdeI	NheI
NotI	NruI	NsiI	PmlI	PvuI	SacII	Sall	Scal
SfiI	SmaI	SnaBI	SpeI	SspI	StuI	XbaI	XhoI

APPROVED	C. S. FIG.
BY	
DRAFTSMAN	

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Fig. 4

1 MKIKELYRRRFPRKTLGPSDLSLLSLPPGTSPVGSPGPLAPIPPTLLAPG 50  
   |||||:|||||:|||||:|||||:|||||.|||||.|||  
 1 MKIKELYRRRFPRKTLGPSDLSLLSLPPGTSPVGSPSPLASIPPTLLTPG 50

51 TLLGPKREVDMHPPLPQPVHPDVTMKPLPFYEVYGELIRPTT LASTSSQR 100  
   |||||:|||||:|||||:|||||:|||||:|||||:|||||:  
 51 TLLGPKREVDMHPPLPQPVHPDVTMKPLPFYEVYGELIRPTT LASTSSQR 100

101 FEEAHFTFALTPOQQVQQILTSREVLPGAKCDYTIQVQLRFCLCETSCPQE 150  
   |||||:|||||:|||||:|||||:|||||:|||||:  
 101 FEEAHFTFALTPOQLQQILTSREVLPGAKCDYTIQVQLRFCLCETSCPQE 150

151 DYFPNLFVKVNGKLCPLPGYLPPTKNGAEPKRPSRPINITPLARLSATV 200  
   |||||:|||||:|||||:|||||:|||||:  
 151 DYFPNLFVKVNGKLCPLPGYLPPTKNGAEPKRPSRPINITPLARLSATV 200

201 PNTIVVNWSSEFGRNYSLSVYLRQLTAGTLLQKLRAKGIRNPDHRSALI 250  
   |||||:|||||:|||||:|||||:  
 201 PNTIVVNWSSEFGRNYSLSVYLRQLTAGTLLQKLRAKGIRNPDHRSALI 250

251 KEKLTADPDSEVATTSLRVSLMCPLGKMRLTVPCRALTC AHLQS FDAALY 300  
   |||||:|||||:|||||:|||||:  
 251 KEKLTADPDSEVATTSLRVSLMCPLGKMRLTVPCRALTC AHLQS FDAALY 300

301 LQMNEKKPTWTCPVCDKKAPYESLI IDGLFMEILSSCSDCDEIQFMEDGS 350  
   |||||:|||||:|||||:|||||:  
 301 LQMNEKKPTWTCPVCDKKAPYESLI IDGLFMEILNSCSDCDEIQFMEDGS 350

351 WCPMKPKKEASEVCPPPGYGLDGLQYSPVQGGDPSENKKVEVIDLTIES 400  
   |||||:|||||:|||||:|||||:  
 351 WCPMKPKKEASEVCPPPGYGLDGLQYSPVQEGNQSENKKVEVIDLTIES 400

401 SSDEEDLPPTKKHCSVTSAAIPALPGSKGVLTSGHQPSVLRSPAMGTLG 450  
   |||||:|||||:  
 401 SSDEEDLPPTKKHCPVTSAAI PALPGSKGALTSGHQPSVLRSPAMGTLG 450

451 GDFLSSLPLHEYPPAFPLGADIQGLDLFSFLQTESQHYGPSVITSLDEQD 500  
   :|||||:|||||:  
 451 SDFLSSLPLHEYPPAFPLGADIQGLDLFSFLQTESQHYSPSVITSLDEQD 500

501 ALGHFFQYRGTPSHFLGPLAPTLGSSHCSATPAPPGRVSSIAPGGALR50  
   .|||||:|||||:  
 501 TLGHFFQFRGTPPHFLGPLAPTLGSSHRSATPAPAPGRVSSIAPGSSLR 550

551 EGHGGPLPSGPSLTGCRSDIISLD\* 575  
   |||||:|||||:  
 551 EGHGGPLPSGPSLTGCRSDVISLD\* 575

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